SSSBSO"SS+9Z86

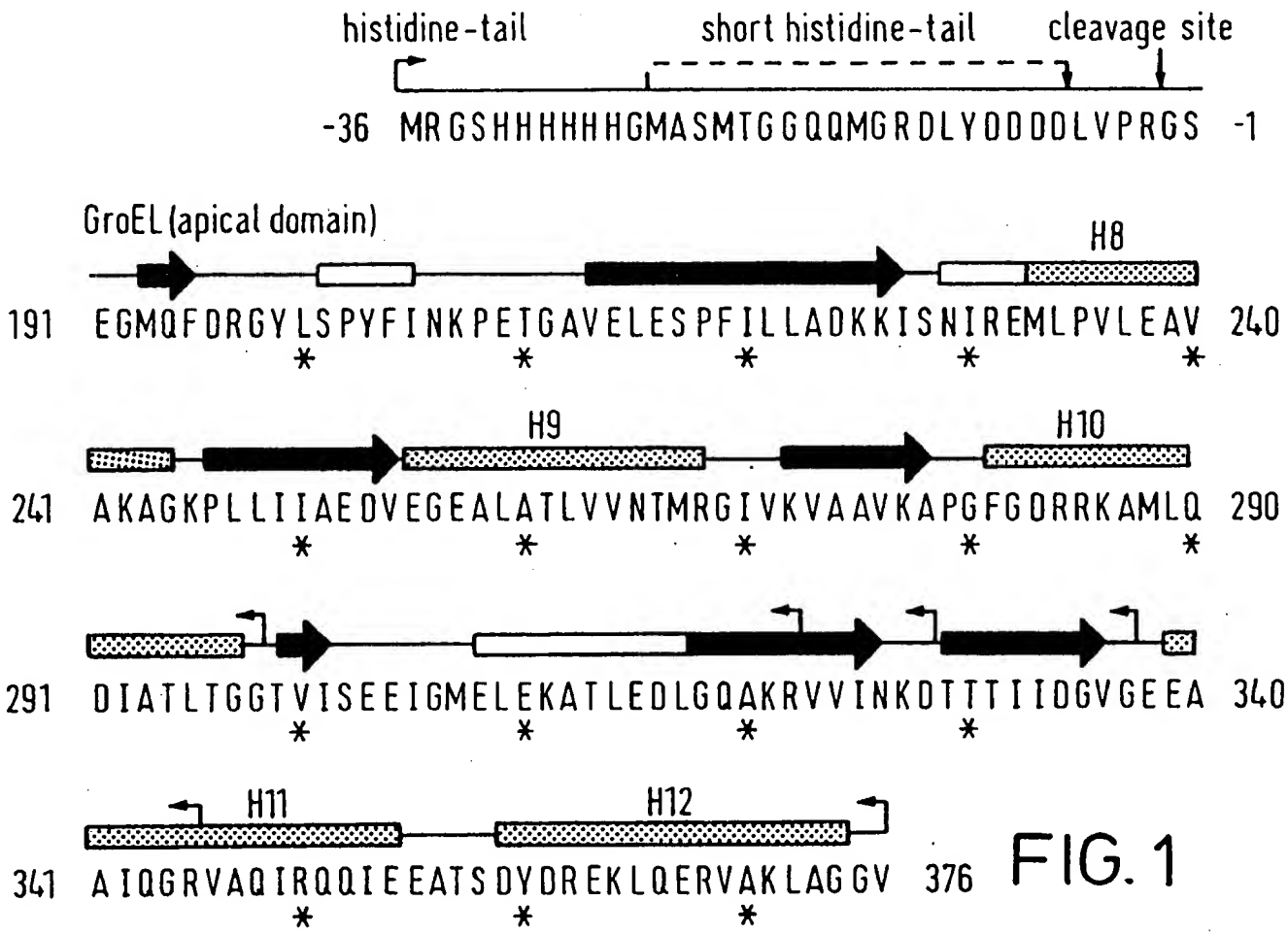

FIG. 1

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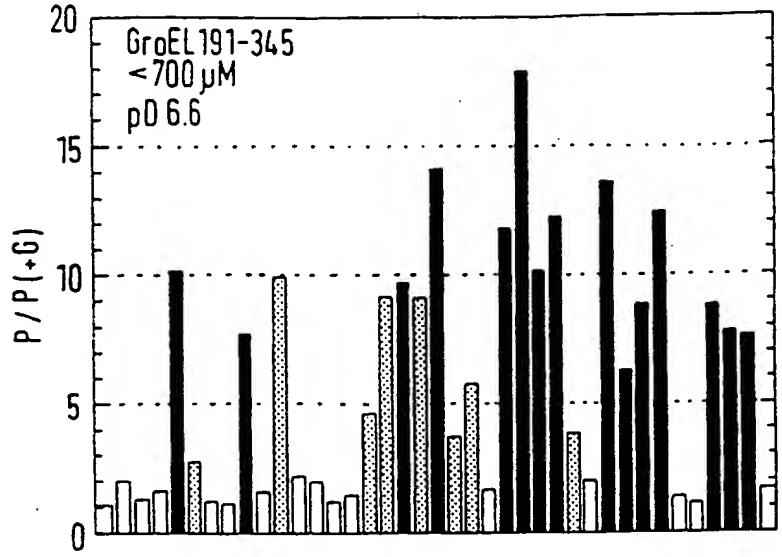

FIG. 2a

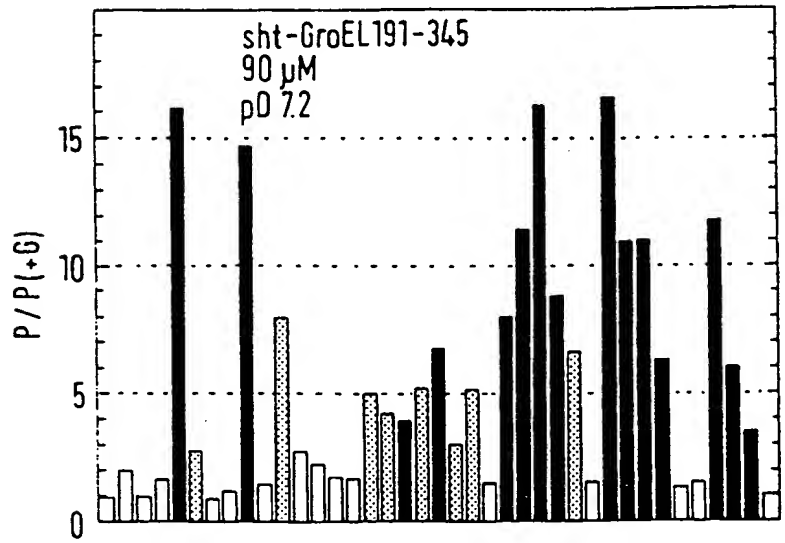

FIG. 2b

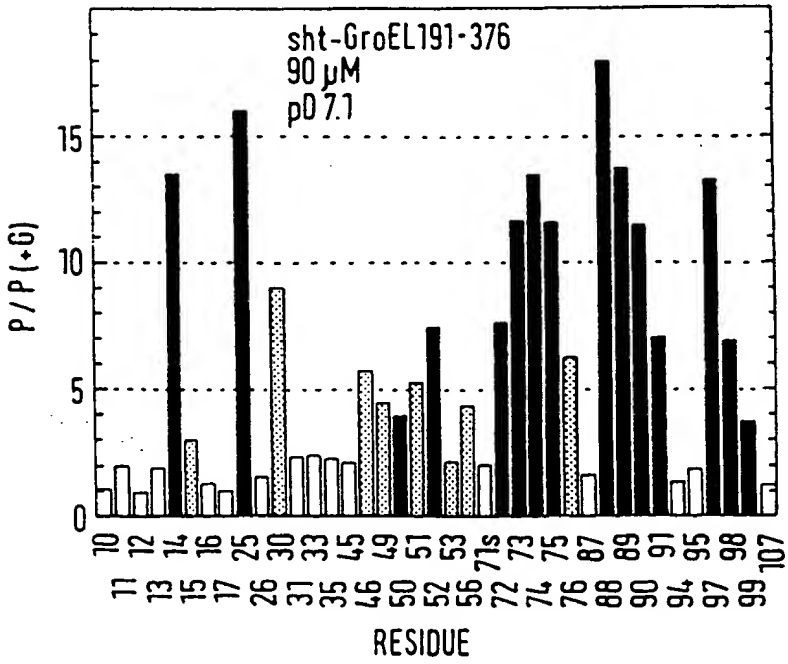

FIG. 2c

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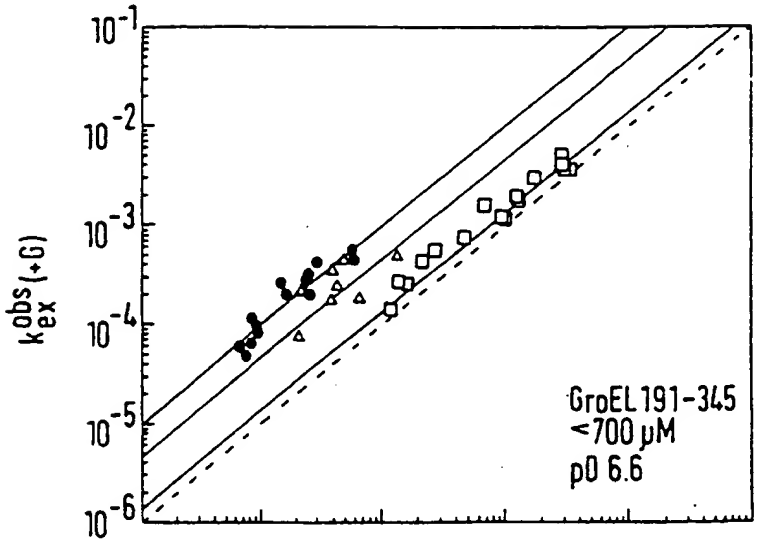

FIG. 2d

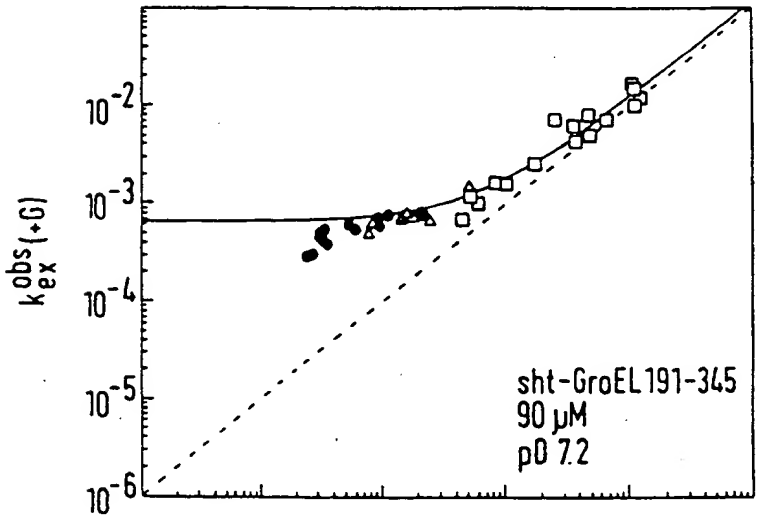

FIG. 2e

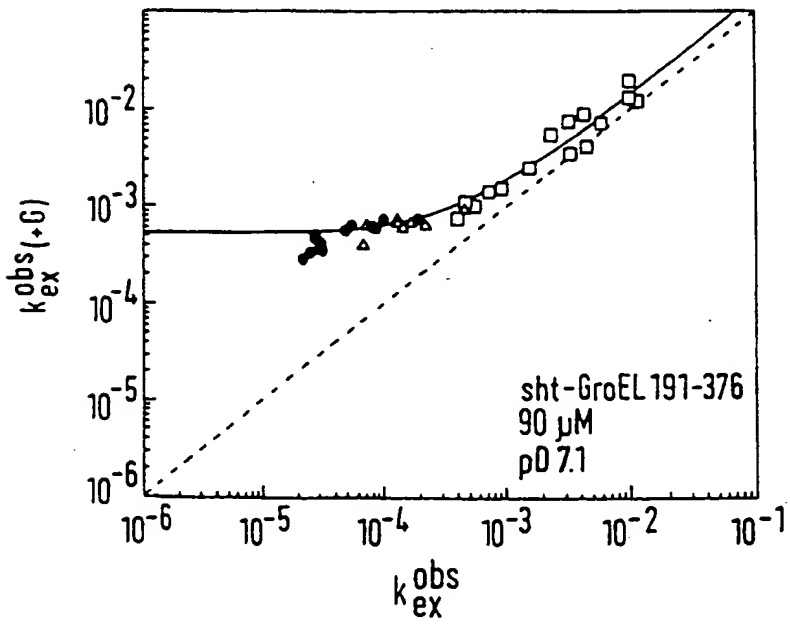

FIG. 2f

DRAFTS

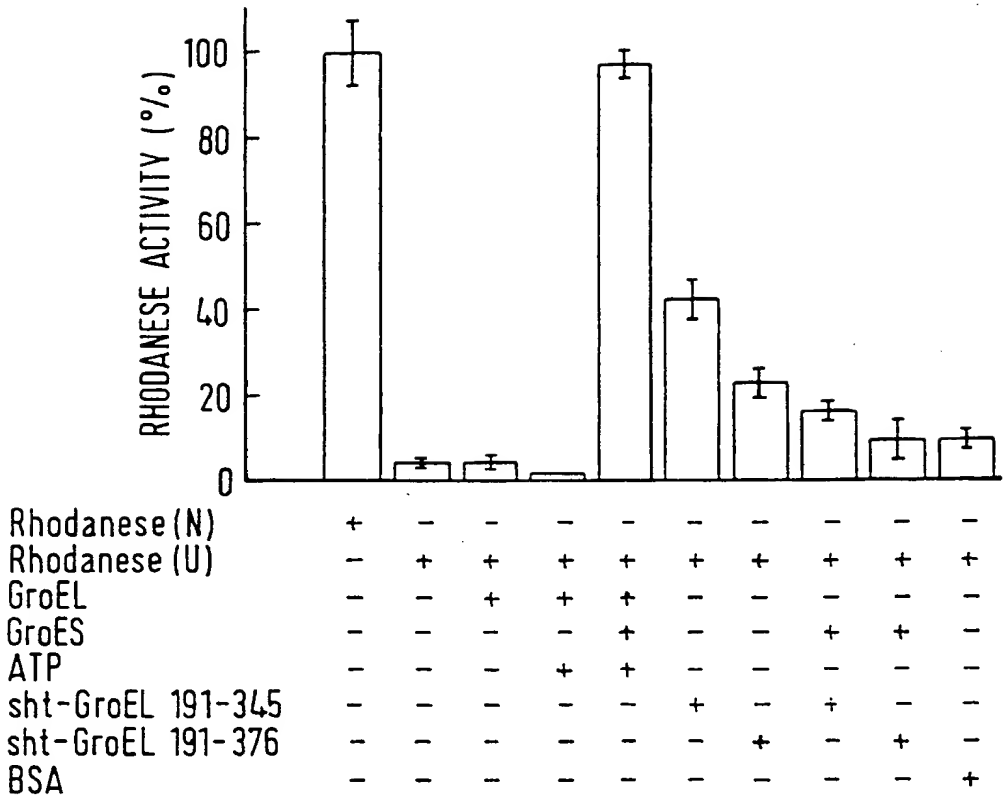

FIG. 3a

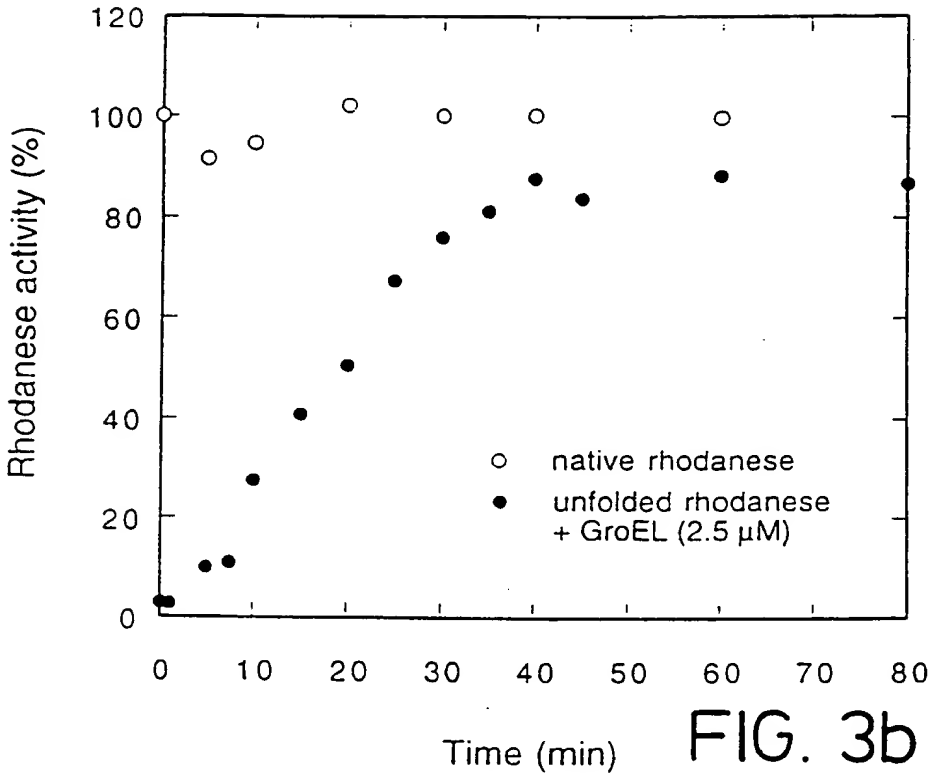
Rhodanese activity (%)
120
100
80
60
40
20
0
0
10
20
30
40
50
60
70
80
Time (min)
native rhodanese
unfolded rhodanese
+ GroEL (2.5 µM)

FIG. 3b

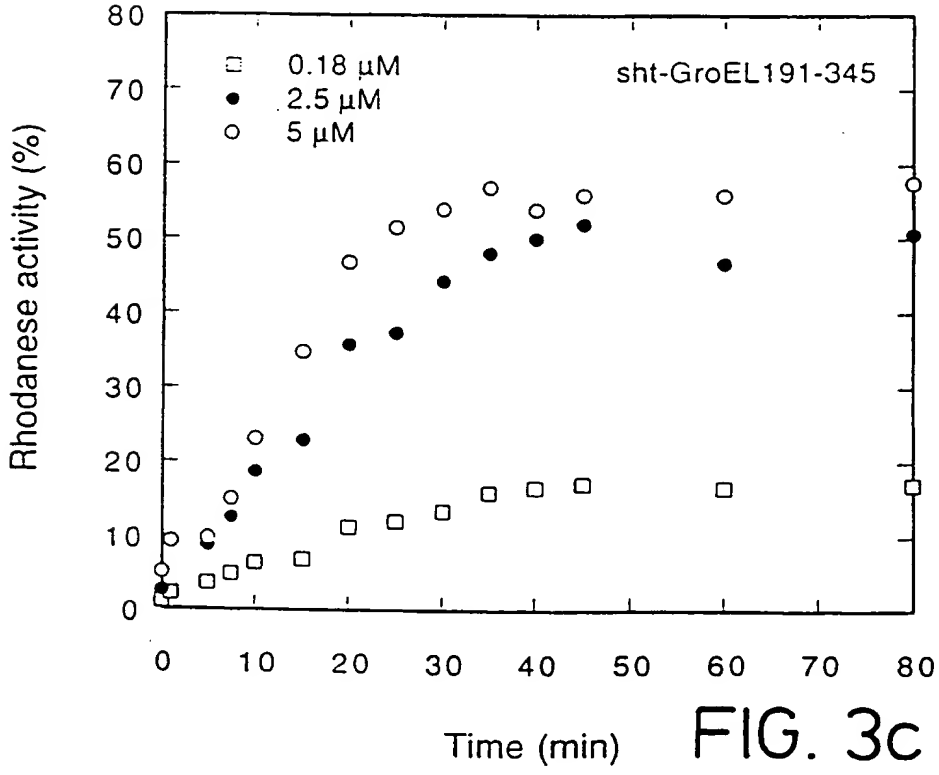
Rhodanese activity (%)
80
70
60
50
40
30
20
10
0
0
10
20
30
40
50
60
70
80
Time (min)
0.18 µM
2.5 µM
5 µM
sht-GroEL191-345

FIG. 3c

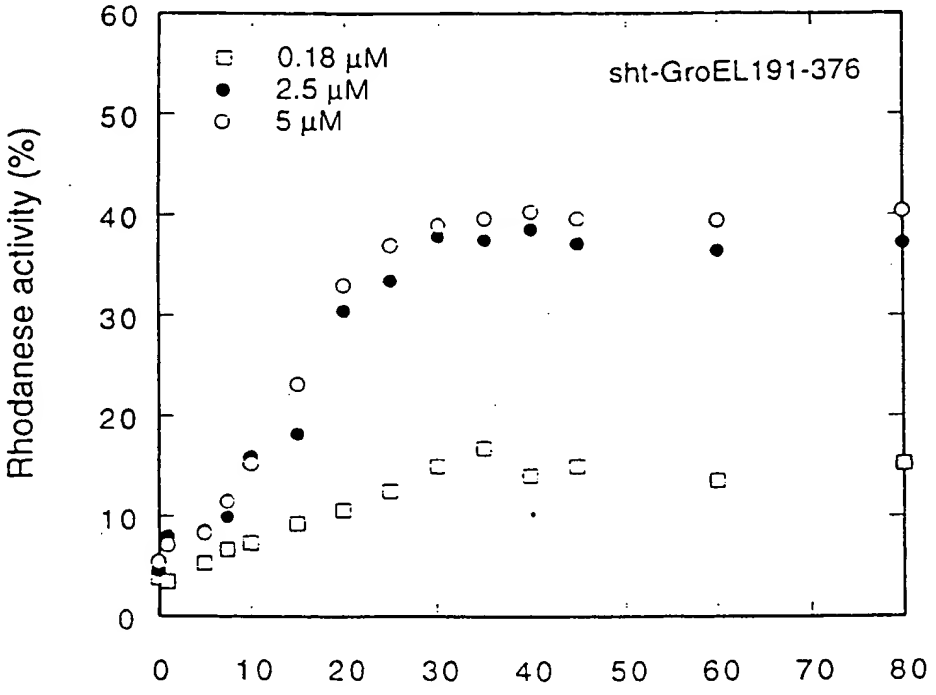
0.18 µM
2.5 µM
5 µM
sht-GroEL191-376
Rhodanese activity (%)
Time (min)
0
10
20
30
40
50
60
70
80

FIG. 3d

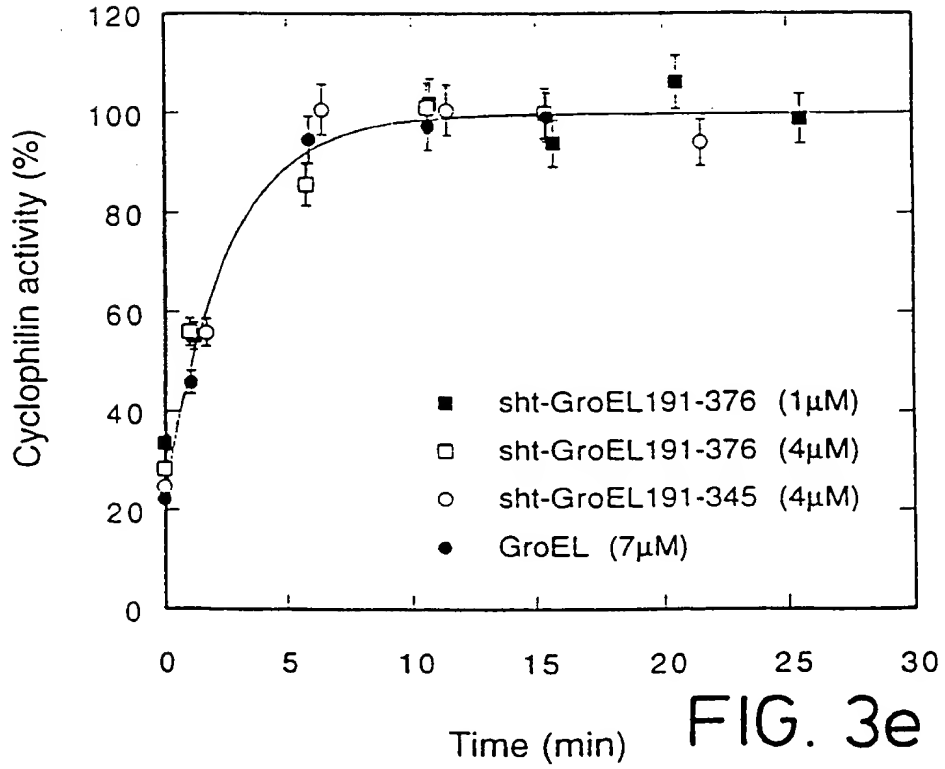
sht-GroEL191-376 (1µM)
sht-GroEL191-376 (4µM)
sht-GroEL191-345 (4µM)
GroEL (7µM)
Cyclophilin activity (%)
Time (min)
0
5
10
15
20
25
30

FIG. 3e

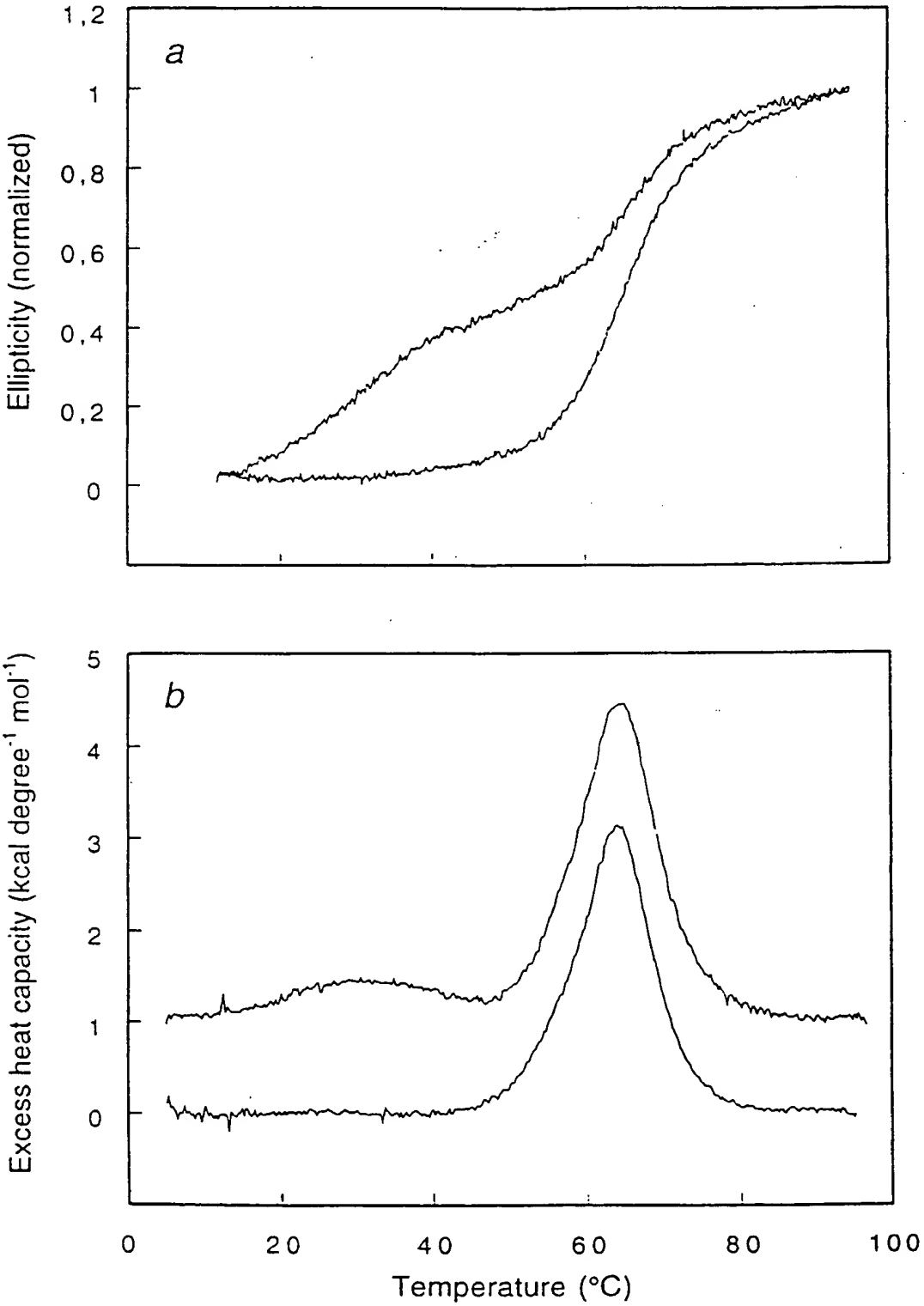
a
b
Ellipticity (normalized)
Excess heat capacity (kcal degree^{-1} mol^{-1})
Temperature (°C)
1,2
1
0,8
0,6
0,4
0,2
0
5
4
3
2
1
0
0
20
40
60
80
100

FIG. 4

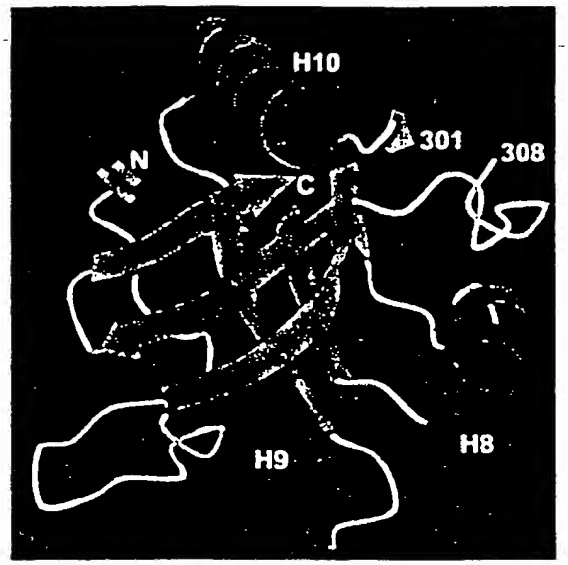

FIG. 5a

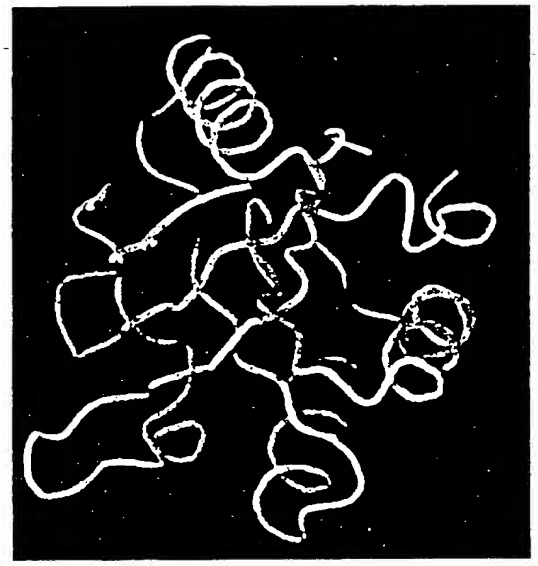

FIG. 5b

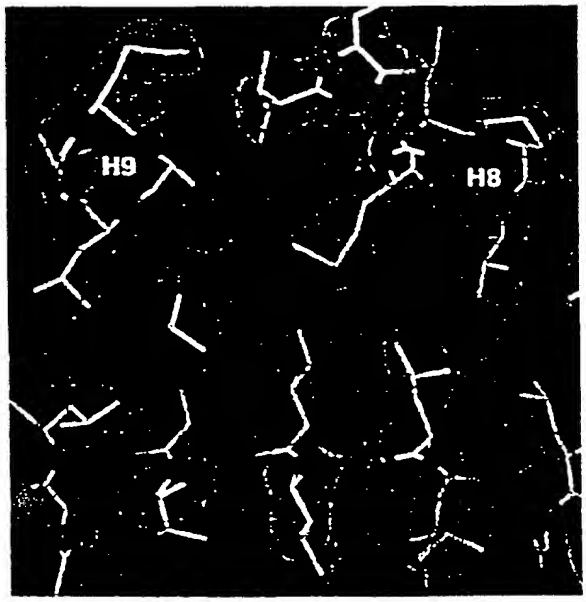

FIG. 5c

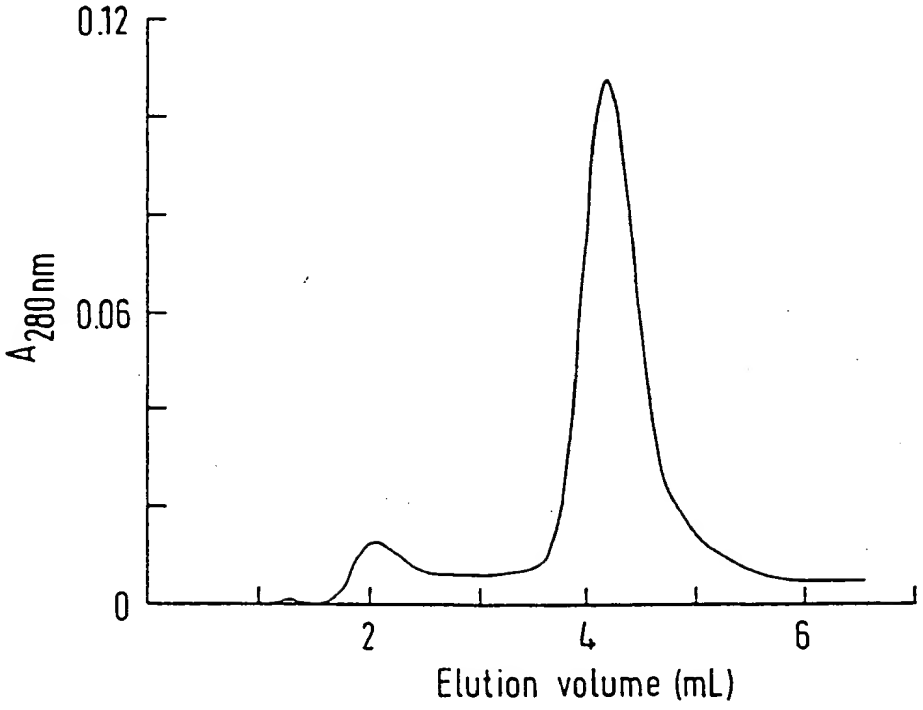

FIG. 6

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                                                                  1
                                                              M   61
AAKDVKFGND ARVKMLRGVN VLADAVKVTL GPKGRNVVLD KSFGAPTITK DGVSVAREIE  121
LEDKFENMGA QMVKEVASKA NDAAGDGTTT ATVLAQAIIT EGLKAVAAGM NPMDLKRGID  181
KAVTAAVEEL KALSVPCSDS KAIAQVGTIS ANSDETVGKL IAEAMDKVGK EGVITVEDGT  241
GLQDELDVVE GMQFDRGYLS PYFINKPETG AVVNTLRGIV KVAAVKAPGF GDRRKAMLQD  301
KAGKPLLIIA EDVEGEALAT LVVNTIRGIV KVAAVKAPGF GDRRKAMLQD IATLTGGTVI  361
SEEIGMELEK ATLEDLGQAK RVVINKDTTT IIDGVGEEAA IQGRVAQIRQ QIEEATSDYD  421
REKLQERVAK LAGGVAVIKV GAATEVEMKE KKARVEDALH ATRAAVEEGV VAGGGVALIR  481
VASKLADLRG QNEDQNVGIK VALRAMEAPL RQIVLNCGEE PSVVANTVKG GDGNYGYNAA  541
TEEYGNMIDM GILDPTKVTR SALQYAASVA GLMITTECMV TDLPKNDAAD LGAAGGMGGM  548
GGMGGMM
```

FIG. 7

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```
                  230        240                                  250        260        270
                   *          *                                    *          *          *
                   x   x  xx                                   x              x  xx xxx  x xx
CH60_ECOLI_190    IREMLPVLEAV.....................................AKAGKPLLIIAEDVEGEALATLVVNTMRGIV
CH60_SALTI_190    IREMLPVLEAV.....................................AKAGKPLLIIAEDVEGEALATLVVNTMRGIV
S56371_191        IREMLPVLEAV.....................................AKAGKPLLIIAEDVEGEALATLVVNTMRGIV
CH60_LEPIN_190    MKDLIHILEKV.....................................AQAGKPLVIISEEVEGEALATIVVNTLRKTI
S47530_191        LKEMLPILEQT.....................................VQTGKPLLIIAEDIDSEALATLVVNRLRGSL
LPNHTPBG_190      IREMLSVLEGV.....................................AKSGRPLLIIAEDVEGEALATLVVNNMRGIV
CH60_ACTAC_189    IRELLPVLEGV.....................................AKAGKPLLIIAEDVEGEALATLVVNTMRGIV
JC4519_191        IRELLPVLEGV.....................................AKAGKPLLIIAEDVEGEALATLVVNTMRGIV
CH60_BRUAB_191    LQALLPVLEAV.....................................VQTSKPLLIIAEDVEGEALATLVVNKLRGGL
CH60_HAEIN_191    IRELLPVLEGV.....................................AKAGKPLLIIAEDVEGEALATLVVNTMRGIV
CH60_CAUCR_190    LQPLPVLEAVV.....................................QSGRPLLIIAEDVEGEALATLVVNKLRGGL
CH60_AMOPS_190    IRDMLSVLEAV.....................................AKSGRPLLIVAEDVEGEALATLVVNNMRGIV
CH60_HAEDU_191    IREILPVLEAV.....................................AKAGKPLLIIAEDVEGEALATLVVNTMRGIV
CH61_RHIME_191    LQAMLPVLEAV.....................................VQTGKPLLIIAEDVEGEALATLVVNKLRGGL
CH60_LEGMI_190    IRDMLSVLEAV.....................................AKSGPSLLIIAEDVEGEALATLVVNNMRGIV
CH60_YEREN_191    IREMLPVLEAV.....................................AKAGKPLLIIAEDVEGEALATLVVNTMRGIV
CH63_BRAJA_190    LNELLPLLEAV.....................................VQTGKPLVIVAEDVEGEALATLVVNRLRGGL
CH60_PORGI_191    LKEMLPILEQT.....................................VQTGKPLLIIAEDNDSEALPTLVVNRLRGSL
S52901_191        IREMLPVLEAV.....................................AKAGKPLLIIAEDVEGEALATLVVNTMRGIV
S26423_191        IREMLPVLEAV.....................................AKAGKPLLIIAEDVEGEALATLVVNTMRGIV
RSU37391_191      LQPMVPLLEAV.....................................IQSQKPLLIIAEDVEGEALATLVVNKLRGGL
CH62_BRAJA_190    LNELLPLLEAV.....................................VQSGKPLVIIAEDVEGEALATLVVNRLRGGL
CH60_ACYPS_191    VREMLPILESV.....................................AKSGKPLLIISEDLEGEALATLVVNSMRGIV
CH63_RHIME_191    LQAMLPVLERV.....................................VQSGKPLLIIAEDVEGEALATLVVNKLRGGL
YEPHSPCRP1_191    IREMLPVLEAV.....................................AKAGKPLLIIAEDVEGEALATLVVNTMRGIV
CH60_BORPE_191    IRDLLPVLEQV.....................................AKSSRPLLIIAEDVEGEALATLVVNNIRGIL
```

FIG. 9(a)

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```
BRUGRO1_189      LQALLPVLEAV.....VQTSKPLLIIAEDVEGERLATLVVNKLRGGL
CH60_PSEAE_191   IREMLPVLEAV.....AKAGRPLLIVAEDVEGEALATLVVNNMRGIV
CH60_BARBA_190   LQSLLPVLEAV.....AQSGKPLLIIAEDVEGEALATLVVNKLRGGL
BAOBB63A_191     LQSLLPVLEAV.....VQSGKPLLIIAEDVEGEALATLVVNKLRGGL
CH60_BACST_189   IQEILPILEQV.....VQQGRPLLIIAEDVEGEALATLVVNKLRGTF
CH60_BACSU_188   IQEILPVLEQV.....VQQGKPLLLIAEDVEGEALATLVVNKLRGTF
CH60_AGRTU_191   LQAMLPVLEAV.....VQTGKPLVIIAEDVEGERLATLVVNKLRGGL
B36917_191       LQAMLPVLEAV.....VQTGKPLVIIAEDVEGERLATLVVNKLRGGL
PAU17072_191     IREMLPVLEAV.....AKAGRPLLIVAEDVEGEALATLVVNNMRGIV
CH60_RHILV_191   LQSMLPVLEAV.....VQTGKPLLIVAEDVEGEALATLVVNKLRGGL
CH61_STRCO_187   IADLLPLLEKVI.....QANASKPLLIIAEDLEGEALSTLVVNKIRGTF
CH60_COXBU_191   IRELIPLLENV.....AKSGRPLLVIAEDIEGEALATLVVNNIRGVV
CH62_RHIME_191   LQAMIPILESV.....IQSGKPLLIIAEDVEGEALATLVVNKLRASL
PSEGROESL1_191   IREMLPVLEAV.....AKAGRPLLIVAEDVEGEALATLVVNNMRGIV
CH61_SYNY3_189   VQDLVPILEQV.....ARQGKPLLIIAEDIEKEALATLVVNRLRGVL
CH60_CLOTM_189   IQDILPLLEQI.....VQQGKKLVIIAEDVEGEALATLLVNKLRGTF
CH60_PSEPU_191   SRAAASTERA.....SAGRPLLIVAEDVEGEALATLVVNNMRGIV
CH60_SYNP7_190   VQDLVPVLEQV.....ARAGRPLVIIAEDIEKEALATLVVNRLRGVL
CH60_GALSU_190   VQQDLLPVLEQI.....AKTNKPLLIIAEDIEKEALATLIVNKLRGIL
CH60_ZYMMO_190   LQSILPILESV.....VQSGRPLLIIAEDIEGEALATLVVNKLRGGL
JC2564_191       LQSILPILESV.....VQSGRPLLIIAEDIEGEALATLVVNKLRGGL
CH60_CHRVI_191   IRDLLPVLEGV.....AKAGKPLLIIAEDVEGEALATLVVNTIRGIV
CH60_MYCTU_189   VKDLLPLLEKV.....IGAGKPLLIIAEDVEGEALSTLVVNKIRGTF
CH60_NEIME_191   IRDLLPVLEKV.....AKASRPLLIIAENVEGEALATLVVNNIRGIL
CH60_TREPA_189   MKDLLPLLEKI.....AQTGRPLLIIAEDVEGEALATLVVNSLRGTL
CH60_HELPY_190   MKDILPLLEKT.....MKEGKPLLIIAEDIEGEALTTLVVNKLRGVL
CH60_NEIGO_191   IRDLLPVLEQV.....AKASRPLLIIAEDVEGEALATLVVNNIRGVL
CH61_CUCMA_222   INAVVKVLELA.....LKKQRPLLIVSEDVESEALATLILNKLRAGI
CH60_MYCPA_189   VKDLLPLLEKV.....IQAGKPLLIIAEDVEGEALSTLVVNKIRGTF
MPU15989_230     VKDLLPLLEKV.....IQAGKPLLIIAEDVEGEALSTLVVNKIRGTF
```

FIG. 9(b)

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S26582_224      MHAVVKVLEMA.....................................LKKQKPLLIVAEDVESEALGTLIINKLRAGI
S40247_191      IRDLLPVLEQV.....................................AKASRPLLIIAEDVEGEALATLVVNNIRGVL
CH60_CLOAB_189  IQEILPLLEQI.....................................VQQGKKLLIIADDVEGEALATLVVNKLRGTF
CH60_NEIFL_191  IRDLLPVLEQV.....................................AKASRPLLIIAEDVEGEALATLVVNNIRGIL
CH60_LEGPN_190  IREMLSVLEGV.....................................AKSGRPLLIIAEDVEGEALATLVVNNMRGIV
CH62_CUCMA_222  INSVVKVLELA.....................................LKRQRPLLIVSEDVESDALATLILNKLRAGI
CHTGROESL1_191  IKDFLPVLQQV.....................................AESGRPLLIIAEDIEGEALATLVVNRIRGGF
S40172_64       IKDFLPVLQQV.....................................AESGRPLLIIAEDIEGEALATLVVNRLRAGF
SYOGROEL2_189   IQDLIPTLERV.....................................ARSGRPLVIIAEDVEGEALATLVVNKLRGVL
CH60_CHLPS_191  IKDFLPVLQQV.....................................AESGRPLLIIAEDIEGEALATLVVNRLRAGF
CH62_STRAL_188  VKDLLPLLEKV.....................................MQSGKPLLIIAEDVEGEALSTLVVNKIRGTF
CH62_MYCLE_189  VKDLLPLLEKV.....................................IQAGKSLLIIAEDVEGEALSTLVVNKIRGTF
MSGANTM_236     VKDLLPLLEKV.....................................IQAGKSLLIIAEDVEGEALSTLVVNKIRGTF
CH60_BORBU_190  IKELLPVLEKV.....................................LGTNKPLLIIAEDIEGDALAALVLNSVRGAL
S26583_224      MHAVVKVLEMA.....................................LKKQRPLLIVAEDVESEALGTLIINKLRAGI
A49209_190      IKELLPVLEKV.....................................LGTNKPLLIIAEDIEGDALAALVLNSVRGAL
MZECPN60B_224   MHAVVKVLEMA.....................................LKKQRPLLIVAEDVESEALGTLIINKLRAGI
CH60_THEP3_189  IQELLPALEQV.....................................VQQGRPLLIIAEDVEGEALATLVVNKLRGTF
CH60_STAEP_188  FQDILPLLEQV.....................................VQASRPILIVADEVEGDALTNIVLNRMRGTF
CH60_LACLA_189  IQEILPLLEQI.....................................LKTNRPLLIVADDVDGEALPTLVLNKIKGVF
CH61_STRAL_188  IQDLLPLLEKVI....................................QAGGSKPLLIIAEDVEGEALSTLVVNKIRGTF
CH60_CHLPN_191  IKDFLPVLQQV.....................................AESGRPLLIIAEEIEGEALATLVVNRLRAGF
MZECPN60A_224   MHAVVKVLEMA.....................................LKKQKPLLIVAEDVESEALGTLIINKLRAGI
HECHSPAB1_190   MKDILPLLEKT.....................................MKEGKPLLIIAEDIEGEALTTLVVNKLRGVL
CH60_ARATH_221  INSIVKVLELA.....................................LKRQRPLLIVSEDVESDALATLILNKLRAGI
CH60_MAIZE_224  MHAVVKVLEMA.....................................LKKQKPLLIVAEDVESEALGTLIINKLRAGI
CH60_CHLTR_190  IKDFLPILQQV.....................................AESGRPLLIIAEDIEGEALATLVVNRIRGGF
CH60_STAAU_189  FQDILPLLEQV.....................................VQSNRPILIVADEVEGDALTNIVLNRMRGTF
CH60_CLOPE_189  IQDLLPLLEQI.....................................VQAGKKLLIIADDIEGEAMTTLVVNKLRGTF
HS60_YEAST_212  IQDILPALEIS.....................................NQSRRPLLIIAEDVDGEALAACILNKLRGQV
CH60_PYRSA_217  VQELVPIHLELI.....................................SKTSRPLLIIAEDVEKEALATLVVNKLRGIV
```

FIG. 9(c)

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DRAFTING


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CH60_EHRCH_191 IQPILPILENV.....ARSGRPLLIIAEDVEGEALSTLVLNKLRGGL
CHTGROE1_191   IKDFLPVLQQV.....AESGRPLLIIAEDIVGEALATLVVNRIRGGF
CH60_THETH_188 VRELLPILEQV.....AQTGKPLLIIAEDVEGEALATLVVNKLRGTL
TAU294831_189  VRELLPILEQV.....RQTGKPLLIIAEDVEGEALATLVVNKLRGTL
CH60_RICTS_190 VQPLVPVLEAV.....AHTGKPLVLIADDVDGEALTALILNNLKGSI
SYCCPNC_189    IAELVPVLEAV.....ARAGRPLLIIAEDIEGEALATLVVNKARGVL
CPU308211_190  VQDLVPILEQV.....ARARKPLFIIAEDIEKEALATLVVNKLRGNL
CH61_MYCLE_189 LPELLPMLEKV.....TESGKPLLIVAEDLEGEALATLVVNSIRKTL
PSU21139_239   ARDLINILEDA.....IRSGFPIVIIAEDIEQEALATLVVNKLRGSL
CH60_COWRU_191 IQPLLPILENI.....ARSGRPLLIIAEDVEGEALSTLVLNKLRGGL
RUBB_BRANA_245 ARDLVGVLEDA.....IRGGYPILIIAEDIEQEALATLVVNKLRGTL
SCCPN60_144    ARDLINVLEEA.....IRGQYPILIIAEDIEQEALATLVVNKLRGSL
CH60_EHRRI_153 IQPMVPLLETI.....VRSNRAVVIIAEDVEGEALTSLVLSKMRGSL
RUBB_ARATH_245 ARDLVGVLEDA.....IRGGYPILIIAEDIEQEALATLVVNKLRGTL
ATU49357_235   IKDIIPILEKT.....TQLRAPLLIIAEDVTGEALATLVVNKLRGVL
RUB1_BRANA_195 IKDIIPILEKT.....TQLRAPLLIIAEDVTGEALATLVVNKLRGVL
CH62_SYNY3_189 IAELVPVLEAV.....ARAGRPLLIIAEDIEGEALATLVVNKARGVL
RUBA_RICCO_178 IKDIIPLLEKT.....TQLRAPLLIIAEDVTGEALATLVVNKMRGIL
CH60_ODOSI_190 VQQDLLPILEQI.....TKTKRPLLLIAEDVEKEALATLILNKLRGIV
PSU21105_236   IKDIIPLLEKT.....TQLRAPLLIISEDITGEALATLVVNKLRGIL
CH60_BRANA_224 LNSMVKVLELA.....LKSQRSLLIVAADLESDALAVLILNKLRAGI
PMSARG2_105    IADLVPVLETV.....QKSSSPLVILAEEVDGEALATLVVNKNRGVL
RUB2_BRANA_234 IKDIIPILEKT.....TQLRAPLLIIAEDVTGEALATLVVNKLRGVL
CRECPN1A_75    ARDIITILESA.....IRGNYPLLIMAEEVEQEALATLVVNKLRGTL
P60_CRIGR_215  VQSIVPALEIA.....NAHRKPLVIIAEDVDGEALSTLVLNRLKVGL
CRECPN1B_224   IRDIIPILEQV.....TRLNAPLLIIAEDVSGEALATLVVNKLRGVL
RUBA_WHEAT_191 IKEIIPLLEQT.....TQLRCPLFIVAEDITGEALATLVVNKLRGII
B47292_189     LPDLLPLLEKV.....AGTGKPLLIVAEDVEGEALATLVVNAIRKTL
CELHSP60CP_206 VQDIVPALELA.....NKLRRPLVIIAEDVDGEALTTLVLNRLKVGL
P60_HUMAN_215  IQSIVPALEIA.....NAHRKPLVIIAEDVDGEALSTLVLNRLKVGL
P60_MOUSE_215  VQSIVPALEIA.....NAHRKPLVIIAEDVDGEALSTLVLNRLKVGL
```

FIG. 9(d)

DRAFTS.


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P60_RAT_215       VQSIVPALEIA.....................NAHRKPLVIIAEDVDGEALSTLVLNRLKVGL
A41931_215        VQSIVPALEIA.....................NAHRKPLVIIAEDVDGEALSTLVLNRLKVGL
MMHSP60A_197      VQSIVPALEIA.....................NAHRKPLVIIAEDVDGEALSTLVLNRLKVGL
CH63_HELVI_218    ASQVVPALELA.....................NSQKKPLVIIAEDYDGEPLSVLVVNKLKIGL
EGHSP60GN_205     IQQILPVLEHI.....................AKANRPLVIIADDVDSEALATLIINKINGKL
HS60_SCHPO_222    VQDILPSLELA.....................AQQRRPLVIIAEDVDGEALAACILNKLRGQL
S61295_198        IHTILPALNHV.....................VGTGRPLLIIADDVESEALTTMIFNKLQGKL
TRBMTHSP_198      IHTILPVLNHV.....................VRSGRPLLIIADDVESEALTTMIFNKLQGKL
ENHCPN60P_142     SQSVVPLLELC.....................LKRKRPLVVISDTIDGDALTTLVLNKLRGL
CH60_PLAFG_257    IQSILPILEIFAKNKQPLCIIADDFSNEVLQTLIINKLKGAIKVLCIVTNSKYISADVGLDLNNLHNNMSSFD
CH60_MYCGE_189    IKEILPLLEGS.....................VENGNPLLIVAPDFAEEVVTTLAVNKLRGTI
HTOHSP60X_228     VQDIIPALEAS.....................TTLRRPLVIIAEDIEGEALAVCILNKLRRPT
```

FIG. 9(e)